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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,015	10/07/2003	Mehmet Aykac	2003P88060 US	4701

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SIEMENS CORPORATION
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EXAMINER	
LU, TONY W	
ART UNIT	**PAPER NUMBER**
2878	

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.** 10/680,015	**Applicant(s)** AYKAC ET AL.	
	Examiner Tony Lu	**Art Unit** 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16 and 18-20* is/are pending in the application.

4a) Of the above claim(s) *17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16 and 18-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *4/20/2006* .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

This is in response to the amendment filed on 12/08/2005.

Claims 1-16 and 18-20 are still pending, and claim 17 is cancelled.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5,13,15,16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Uchida et al US5091650.

With respect to claims 1, Uchida et al disclose a radiation detecting system having a detector array(see fig.3), wherein the detector array comprising: a plurality of MxN arrays(plurality of 2x2 arrays of scintillator elements) of scintillator elements where “M” and “N” are independently selectable and where “M” and “N” are at least two;said plurality of MxN arrays of scintillator elements being optically coupled to a plurality of photodetectors(2_1,2_2); a single continuous light guide(5) disposed between said plurality of MxN arrays of scintillator elements and said plurality of photodetectors, said continuous light guide defining no discontinuities including cuts and slots; and a mechanism is inherently included for maintaining a relative position of each said scintillator elements in each of said plurality of MxN arrays with respect to each other in order to prevent any displacements of the components of the system and/or to ensure the placements of scintillator elements are properly aligned with said light guide and/or said plurality of photodetectors.

With respect to claim 2, per the above discussion, Uchida et al disclose each of said scintillator elements defines a top surface, a bottom surface and a plurality of side surfaces, wherein each of said plurality of side is optimized to a selected degree to define a selected light collection efficiency and to control light sharing between said scintillator(see fig.3).

With respect to claim 3, per the above discussion, Uchida et al disclose a plurality of reflective light partitions(mirror polished surfaces) interposed between selected ones of said scintillator elements in at least one of said plurality of MxN arrays, at least one of said plurality of reflective light partitions defining a first height, and at least one of said plurality of reflective light partitions defining a second height, wherein the first height equals the second height(heights defined by the mirror polished surfaces, S_1).

With respect to claim 4, per the above discussion, Uchida et al disclose an air gap is defined between adjacent selected ones of said scintillator elements in at least one of said plurality of MxN arrays(col.5, lines 15-25).

With respect to claim 5, per the above discussion, Uchida et al disclose said air gap is defined between scintillator elements between which no reflection light partition is positioned(gaps between rough surfaces, S_2).

With respect to claim 13, per the above discussion, Uchida et al disclose said plurality of photodetectors are photomultiplier tube(read col.3, lines 34-44).

With respect to claims 15, Uchida et al disclose a radiation detecting system having a detector array(see fig.3), wherein the detector array comprising: a least one MxN arrays(4x4) of scintillator elements where "M" and "N" are independently selectable and where "M" and "N" are at least two;said plurality of MxN arrays of scintillator elements being optically coupled to a plurality of photodetectors(2_1,2_2); a single continuous light guide(5) disposed between said plurality of MxN arrays of scintillator elements and said plurality of photodetectors, said continuous light guide defining no discontinuities including cuts and slots; an air gap(read col.5, lines 15-25) defined between adjacent ones of said scintillator elements; and a mechanism is inherently included for maintaining a relative position of each scintillator element in each of said plurality of "MxN arrays of scintillator elements with respect to each other of said scintillator elements in each of said plurality of MxN arrays in order to prevent any displacement and/or ensure placements of scintillator elements are properly aligned with said light guide and said plurality of photodetectors.

With respect to claim 16, per the above discussion, Uchida et al disclose each of said scintillator elements defines a top surface, a bottom surface and a plurality of side surfaces, wherein each of said plurality of side is optimized to a selected degree to define a selected light collection efficiency and to control light sharing between said scintillator(see fig.3).

With respect to claim 19, per the above discussion, Uchida et al disclose said plurality of photodetectors are photomultiplier tube(read col.3, lines 34-44).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6,7,12,14,18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida et al US5091650 in view of Ryuo et al US5227634.

With respect to claims 6 and 7, per the above discussion, Uchida et al disclose an air gap being defined between said plurality reflective light partitions on one side of an adjacent pair of said scintillator elements and an opposing side of said adjacent pair of said scintillator elements(see fig.6, adjacent pairs of scintillator elements), but Uchida et al lack a clear teaching of said plurality of reflective light partitions are fabricated from reflective films and adhered to said scintillator elements.

Ryuo et al disclose an imaging device with an array of scintillator elements(31-36) having reflective light partitions fabricated from reflective films adhered and/or fixed between the scintillator elements(5, Teflon tapes).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Uchida et al by using known and available reflective films(Teflon tapes) as reflective light partitions taught by Ryuo et al in order to further ensure the proper scintillator light transmission within and/or between said scintillator elements.

With respect to claims 12,14,18 and 20, per the above discussion, Uchida et al lack a clear teaching of whether or not said mechanism is a bonding agent for bonding scintillator elements to said plurality of photodetectors and/or said light guide.

Ryuo et al disclose using a bonding agent(silicone matching oil layer, read col.6, lines 13-20) for bonding the scintillator elements(31-36) and photodetectors(11,12,13,14).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Uchida et al by utilizing bonding agents taught by Ryuo et al in order to ensure the components of the system are properly attached and/or bonded together.

Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida et al US5091650 in view of Ryuo et al US5227634 further in view of Cherry et al US6552348.

With respect to claims 8,10 and 11, per the above discussion, the proposed system of Uchida et al and Ryuo et al lack a clear teaching of a grid array defined by said mechanism having a plurality of scintillator element cells adapted to receive said array of scintillator elements, wherein the grid array is fabricated from a material selected to maximize light reflection at a wavelength particular to said scintillator elements.

Cherry et al disclose a grid array(18) for securing the scintillator array(4).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the proposed system of Uchida et al and Ryuo et al by supplying a grid array taught by Cherry et al in order to provide rigid means for preventing displacements of the components of the system. Further citations in claims 10 and 11 regarding a specific type of material being used to fabricate the grid array to prevent any scintillator light loss would have been obvious to one ordinary skill in the art in order to prevent deficiency in light collection of the system.

With respect to claim 9, per the above discussion, although the proposed system of Uchida et al and Ryuo et al and Cherry et al lack a clear teaching of whether or not a binding agent is utilized, and if an air gap is being defined between each of said scintillator element and a side wall of said scintillator element cell, receiving each of said scintillator element with within each of said scintillator element cells without using binding agent, and having the air gap being defined between each of said scintillator element and said side wall of said scintillator element cell would have been obvious to obvious to one of ordinary skill in the art in order to provide easier removal and/or replacement of said scintillator elements.

Response to Arguments

Applicant's arguments with respect to claims 1-16 and 18-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Lu whose telephone number is 5712728448. The examiner can normally be reached on M-F 9:00am- 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 5712722328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL

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